



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,762	10/29/2003	Howard C. Choe	TXT03-01	6659
7590	08/23/2004		EXAMINER	
David E. Huang, Esq. CHAPIN & HUANG, L.L.C. Westborough Office Park 1700 West Park Drive Westborough, MA 01581			ELLINGTON, ALANDRA	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,762	CHOE ET AL	
	Examiner	Art Unit	
	Alandra N Ellington	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-21,24 and 25 is/are rejected.
 7) Claim(s) 22,23 and 26-28 is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 3/22/04.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Shust et al ("Electrical Removal of Outdoor Microphone Wind Noise" 1998).

a. With respect to Claim 1, Shust et al discloses an acoustic sensor comprising:

A base (pg. 3 lines 26-27);

A microphone supported by the base, the microphone including a microphone diaphragm (pg. 2 lines 14-15, pg. 3 lines 22-24 {Fig. 2}); and

A hot-wire anemometer supported by the base, the hot-wire anemometer including a set of hot-wire extending members that defines a plane which is substantially parallel to the microphone diaphragm (pg. 2 lines 14-17, pg. 3 lines 22-27 {Figs. 2 and 3}).

b. With respect to Claim 9, Shust et al discloses an acoustic system, comprising:

An acoustic sensor having (i) a base, (ii) a microphone having a microphone diaphragm that is supported by the base, and (iii) a hot-wire anemometer having a set of hot-wire extending members that is supported

by the base, the set of hot-wire extending members defining a plane which is substantially parallel to the microphone diaphragm (pg. 2 lines 14-15, pg. 3 lines 22-27 {Figs. 2 and 3}); and

A processing circuit that receives a sound and wind pressure signal from the microphone and a wind velocity signal from the hot-wire anemometer, and that provides an output signal based on the sound and wind pressure signal from the microphone and the wind velocity signal from the hot-wire anemometer (pg. 2 lines 22-25 {Figs. 1 and 5}).

3. Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Poole (6,237,461).

a. With respect to Claim 20, Poole discloses a method for providing an acoustic signal, the method comprising the steps of: generating a sound and wind pressure signal in response to sound and wind pressure on a microphone diaphragm 81,83 (col. 6 lines 16-23); generating a wind velocity signal in response to wind velocity on a hot-wire anemometer 94 having a set of hot-wire extending members that defines a plane which is substantially parallel to the microphone diaphragm (col. 6 lines 53-63); and providing, as the acoustic signal, an output signal based on the generated sound and wind pressure signal and the generated wind velocity signal (col. 13 lines 24-44).

b. With respect to Claim 21, Poole discloses the method of claim 20, further comprising the step of: providing, as the microphone 81,83 and the hot-wire

anemometer 94, a microelectromechanical systems device (col. 12 lines 62-67, col. 13 lines 1-21, 45-67, col. 14 lines 1-7).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 24 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Murari et al (6,638,836).

a. With respect to Claim 24, Murari et al discloses a method for making a microelectromechanical systems device, the method comprising the steps of: disposing a first layer 20,28,60 of material over a base structure (col. 4 lines 12-17, col. 6 lines 62-67, col. 7 lines 1-4); disposing a second layer 75,78 of material over the first layer 60 of material (col. 7 lines 62-65); and removing at least a portion of the first layer 20,28,60 of material and a portion of the second layer 75 of material such that a remainder of the second layer 75,78 of material forms multiple extending members 77 supported by the base structure, the extending members 77 being parallel to each other (col. 8 lines 15-34, col. 9 lines 5-18 {Fig. 21}), wherein each of the steps of disposing the first layer 20,28,60 of material, disposing the second layer 75,78 of material and removing occurs within a temperature range that is less than 700 degrees Celsius (col. 8 lines 5-18).

b. With respect to Claim 25, Murari et al discloses the method of claim 24 wherein the step of disposing the second layer of material includes the step of:

depositing, as the second layer 75,78 of material, conductive material using a plasma enhanced chemical vapor deposition process (col. 8 lines 43-62).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shust et al ("Electronic Removal of Outdoor Microphone Wind Noise" 1998).

a. With respect to Claim 17, Shust et al discloses the claimed invention except for a conversion stage that converts the wind velocity signal from the hot-wire anemometer into an analog wind pressure signal having a wind pressure component and an output stage that subtracts the wind pressure component of the analog wind pressure signal from a sound and wind pressure signal from a microphone to provide an output signal. However, Shust et al teaches a conversion stage that converts the wind velocity signal from the hot-wire anemometer into a digital wind pressure signal having a wind pressure component and an output stage that subtracts the wind pressure component of the digital wind pressure signal from a sound and wind pressure signal from a microphone to provide an output signal (pg. 2 lines 22-27, pg. 3 lines 1-10 {Fig. 1}). Since the use of either an analog or digital signal known in the art, it would

have been obvious to one having ordinary skill in the art at the time the invention was made to modify the digital signal of Shust et al for the purpose of obtaining the desired results of accurate wind prediction. *MPEP 2144.03.*

Double Patenting

Statutory (35 U.S.C. 101)

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 3-8 and 11-18 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 12-16 and 19-25 of prior U.S. Patent No. 6,688,169. This is a double patenting rejection.

Non-Statutory

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-2, 9-10 and 19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 6 and 10-11 of U.S. Patent No. 6,688,169. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant specification is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: An acoustic sensor comprising a base, a microphone supported by the base, the microphone including a microphone diaphragm, and a hot-wire anemometer supported by the base, the hot-wire anemometer including a set of hot-wire extending members that defines a plane which is substantially parallel to the microphone diaphragm.

Allowable Subject Matter

9. Claims 22-23 and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The reasons for the indication of allowable subject matter is based on the inclusion of:

a. In Claim 22, the step of *converting the wind velocity signal into an analog wind pressure signal having a wind pressure component; and subtracting the*

wind pressure component of the analog wind pressure signal from the sound and wind pressure signal to provide the output signal.

- b. In Claim 23, the step of *digitizing the wind velocity signal; correlating the digitized wind velocity signal with a series of wind pressure values from a lookup table; and subtracting the series of wind pressure values from the sound and wind pressure signal to provide the output signal.*
- c. In Claim 26, the step of positioning, as the conductive material, *tungsten over the first layer of material such that the microelectromechanical systems device is capable of operating as a hot-wire anemometer.*
- d. In Claim 27, the step of disposing the first layer of material over the base structure, *forming a microphone diaphragm over the substrate of the base structure such that, after the step of removing, the microphone diaphragm resides between the multiple extending members and the substrate.*
- e. In Claim 28, the step of removing a portion of the substrate to form a first portion of a condenser microphone cavity; forming a rigid member over another substrate and removing a portion of the other substrate to form a second portion of the condenser microphone cavity; and bonding the substrate with the other substrate such that the first and second portions of the condenser microphone cavity align, and such that the microphone diaphragm is disposed between the multiple extending members and the condenser microphone cavity to form, as the microelectromechanical systems device, an acoustic element having a hot-wire anemometer and a condenser microphone.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Ott et al (US 2003/0109118 A1) discloses an integrated inductor.
- b. Owen et al (4,409,899) discloses an acoustic target ranging system.
- c. Sear et al (4,156,800) discloses a piezoelectric transducer.
- d. Rothenberg (5,454,375) discloses a mouthpiece with airflow measurement.
- e. Dhuler et al (6,324,748) discloses a microelectromechanical structure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra N Ellington whose telephone number is (571) 272-2178. The examiner can normally be reached on Monday - Friday, 7:30am - 4:00pm.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2855

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alandra Ellington
Art Unit 2855

ane

(W)


EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800